Genesis of the Zinc Ores of Edwards District, St. Lawrence County, N.Y. By C. H. SMYTH, JR. New York State Museum Bulletin, No. 201. Albany, N.Y., 1917. Pp. 39, pls. 12.

This report presents the results of laboratory studies of ore from the zinc deposits of the Edwards district, which is about 15 miles south of the Canton area described in Bulletin 185, reviewed above, and the geology of the two areas is very similar. The ore minerals are sphalerite, pyrite, and galena, and occur as fillings of narrow cracks or as replacements along shear zones in the Grenville crystalline limestone. The deposits are of the high-temperature type, and the sequence of mineral deposition is as follows: (1) diopside, tremolite, (2) pyrite, (3) sphalerite, (4) galena, (5) talc, (6) serpentine. This sequence of mineral deposition indicates changing conditions from intense-contact, metamorphic conditions to those normal for the depths involved and without outside agencies. At all stages during this transition from intense to moderate conditions calcite was subject to repeated solution and recrystallization.

The granite magmas which intrude the Grenville sediments are considered the source of the ore minerals and during the cooling of the magma, gases and solutions were given off which carried the sulphur and metals into the country rocks where they were precipitated. The wall rock of the sphalerite is always crystalline limestone while the typical pyrite ore is always in schist or gneiss. Also the pyrite ore is always rich in graphite while the zinc ore contains but little graphite. The typical pyrite ore contains but little sphalerite but the zinc ore contains considerable pyrite.

These deposits are compared with zinc deposits of other regions and especially with the contact zinc deposits of the Christiania district described by Goldschmidt. Excellent photomicrographs show clearly the various mineral relations described in detail in the text. This is a valuable contribution to the subject of contact metamorphic ore deposits.

J. F. W.

New Edition of Coal, Oil, Gas, Limestone, and Iron Ore Map. West Virginia Geological Survey.

Thoroughly revised, showing oil and gas pools, many anticinal lines not heretofore shown, and also booklet giving the names and post-office addresses of all the principal coal-mining operators in West Virginia up to July 1, 1921. Scale, 8 miles to the inch. Price, folded in strong envelope and delivered by mail, $1.00. Remittances to West Virginia Geological Survey, Box 848, Morgantown, West Virginia.